

Lessons from Nalanda University of Ancient Times and Stanford University of Modern era for a New India

About the Author



Mr. Shailendra Kumar

Mr. Shailendra Kumar is the Founder and President of Nalanda 2.0 (www.Nalanda2.org) and author of *Building Golden India: How to unleash India's vast potential and transform its higher education system. Now.* (www.shailkumar.com) In addition to receiving international acclaim from academic and business leaders, in 2017, a Nobel Laureate presented this book to India's Prime Minister Narendra Modi.

Prior to writing the book, Shailendra was an administrator at two world-class multidisciplinary research universities: UC Berkeley (ranked #5 in Top 500 of Global Rankings, ARWU, 2017) and UC San Diego (ranked #15 in Top 500 of Global Rankings, ARWU, 2017).

Earlier, he was co-founder and CEO of two start-ups and executive in several Fortune 500 and Silicon Valley high technology companies. Alumni leader since 1991, he was President of the IIT Foundation and co-founder of the Pan IIT alumni movement in the US. Shail is a recipient of Indian Institute of Technology (IIT) Kharagpur's *Distinguished Service Award*. He also serves on the Advisory Board of Lab-X Foundation.

He has an MBA from the Kelley School of Business, Indiana University, Bloomington and a B.Tech with honors in Mechanical Engineering from IIT Kharagpur.

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Abstract

India's future will be defined by how well it educates its young men and women. India must also address its mega challenges—problems that affect over 100 million people each—such as water, health, energy, law and order, urban migration, climate change, and poverty. A vibrant higher education system can address these challenges and opportunities. However, India's higher education system is in crisis. Five big ideas can transform this system. One of them is to establish several new worldclass multidisciplinary research universities and transform many existing institutions. There is a tsunami-wave of young men and women arriving at the doorsteps of their lives and careers. Thus, the time to transform the higher education system has never been more critical or urgent. It is also time to move beyond individual brilliance towards building institutional excellence. The lessons from Nalanda of ancient India and Stanford of modern era offer a compelling roadmap to create a better future for India's youth, society, and its economy. Doing so will be a lasting legacy for the government, industry and academic leaders, and philanthropists and a win-win for all the stakeholders.

The Case for Transforming India's Higher Education System

India's future will be defined by how well it educates its young men and women. With 20-26 million children born every year, over the next 35-50 years an estimated 700 million to 1.3 billion of India's youth will require access to higher education. Providing them with excellent higher education and preparing them for their lives and careers is India's defining challenge and opportunity of the 21st century.

India must also address its mega challenges—problems that affect over 100 million people each—such as water, health, energy, law and order, urban migration, climate change, and poverty. India's Gross Domestic Product (GDP) per capita is \$6,700 and on this metric it is ranked 160th among 230 nations (CIA World Fact Book, 2016).

We live in a world that is increasingly being disrupted by technology and business innovation. Being prepared for a hyper competitive and rapidly changing world is the only certain path for individuals to lead a fulfilling life and have a productive career. Higher education system prepares young 18 year olds for their lives and careers. Professionals in all sectors of the industry and society, including teachers in primary and secondary school are educated in colleges and universities. A world-class college and university system also enables the research, innovation and start-up ecosystem and solves problems that matter to the society.

Thus, a vibrant higher education system is the engine that can address all these challenges and opportunities. Unfortunately, India's higher education system is in crisis.

Even after 70 years of independence India does not have even one world-class multi disciplinary research university. And, just one university was ranked in the Top 500 of Global Rankings (ARWU, 2017). Its premier institutions of IITs, IIMs, and AIIMS enroll less than 0.5% of students.

India's gross enrollment ratio (GER), one of the measures of access, is a measly 27% (UNESCO, 2015). This is in sharp contrast to most developed countries, which have a GER of 50-95%.

And the youth who do have access to higher education receive such dismal quality of education that 70-90% of the college graduates in India are considered unemployable by the industry (NASSCOM, 2009). As a result, industry is spending 6-12 months in training these recent graduates for productive work (Kumar, 2015).

There is such a severe shortage of excellent higher education institutions that families are voting with their wallets and their feet. Middle-class parents are spending one-third of their monthly income on private coaching. Lower-income parents are selling their assets or taking loans for the same cause. As a result, the private coaching has mushroomed and was estimated to become \$40 Billion per year industry by 2015 (ASSOCHAM, 2013). Those who can afford send their children overseas for university. Of the Indian students who go overseas just over 50% study in the US and spend close to \$6.5 Billion (Financial Express, 2017), putting the total amount spent on overseas education to over \$10 Billion per year.

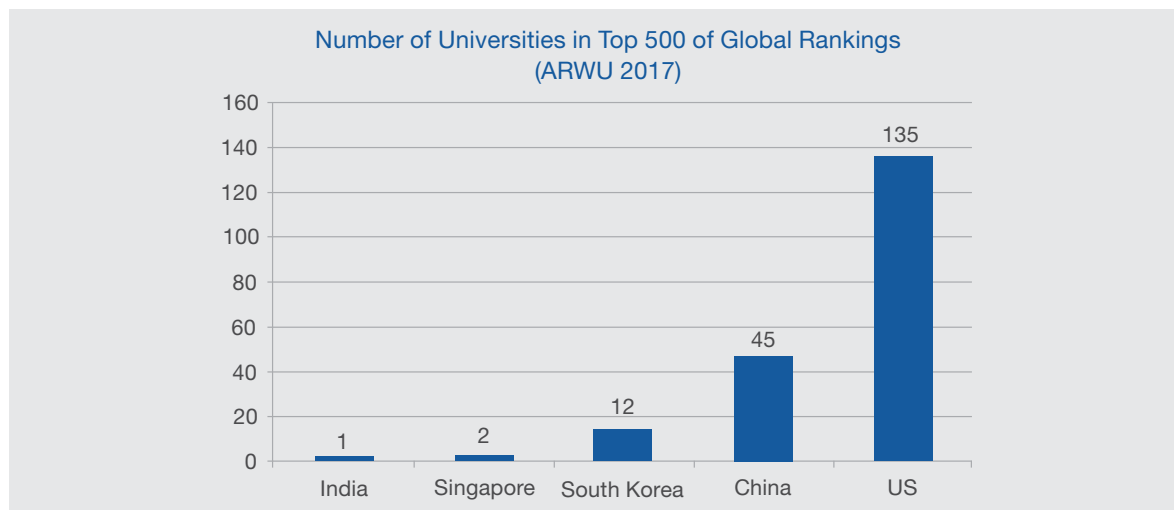
Thus, everyone is paying a hefty price for this crisis: students, parents, industry, society and the nation.

Five Big Ideas can Transform India’s Higher Education System

Building Golden India: How to unleash India's vast potential and transform its higher education system. Now. (published 2015, author: Shail Kumar) outlines a comprehensive case and a plan for transforming India’s higher education system. In summary, there are five big ideas that can collectively address the key challenges and opportunities facing India and its higher education system.

- Establish 50-100 world-class multidisciplinary research universities. These universities teach, conduct research, and enable the start-up and innovation ecosystem. For India, this would be a combination of existing institutions that are transformed into world-class multidisciplinary research universities and new universities started and sustained as world-class multidisciplinary research universities.
- Develop a master plan at the state level so that each state has a complementary set of research universities, masters and undergraduate colleges and universities, and community colleges. California’s master plan is an excellent role model for such as plan.
- Remove British Raj (colonial) rules and regulations that are coming in the way of the transformation.
- Leverage Massive Open Online Courses (MOOCs), technology, and innovations to provide an excellent education to all, now.
- Attract the best and the brightest talent to be faculty members in colleges and universities by instituting market-based compensation, and merit-based incentives and accountability system.

Great nations, states, and cities are powered by a world-class education system, especially its higher education system. The United States has 135 universities in the Top 500 of global rankings, China has 45, South Korea: 12, Singapore: 2. The state of California has 12 and Silicon Valley: 3. In the same rankings India has just one university in the Top 500. (ARWU, 2017)



India needs to build several world-class multidisciplinary research universities. The scale, scope and level of excellence must match that of Nalanda University of ancient India and Stanford University of the 21st century. There is much that India can learn from both.

Lessons from Nalanda of Ancient India

Nalanda University, of 1400+ years ago, epitomized the excellence and vibrancy in India's higher education system.

“Nalanda University was the center of higher learning in the country and the world when Xuánzàng, a renowned scholar from China, arrived in India between 629 and 645 CE. The University of Bologna, one of the earliest universities in the western world, would be established in 1088, over four hundred and fifty years after Xuánzàng's visit to India. The University of Oxford was established in 1096.”

There are many lessons that we can draw from Nalanda University's excellence, reputation, and impact. Some of these include:

1. *Scope and scale matters.* Nalanda had fifteen hundred teachers and three thousand to ten thousand students. The large number of teachers enabled the university to offer over a hundred lectures per day in several fields of study. The depth and breadth of fields attracted students of various interests and backgrounds to Nalanda. Thus, Nalanda became a hub of intellectual learning and growth for the best and the brightest teachers and students in India and around the world.
2. *Excellence matters.* Outstanding teachers, moral standards, intellectual rigor, and mental discipline were foundations for excellence. Reputation, financial support followed.
3. *Community engagement and impact matters.* Kings, merchants, and two hundred village communities supported Nalanda. The students and teachers were engaged with the villages. They also helped address disputes and build monasteries. Thus, their importance and impact was tangible and visible.

These lessons are as timely and relevant now as they were fourteen hundred years ago.

Lessons from Stanford University of the 21st Century

India can also learn from Stanford University, which transformed itself from a regional university in 1940s to an elite research university in a matter of decades.

Stanford University, based in Silicon Valley, California was ranked #2 in the Top 500 of global rankings (ARWU, 2017). Stanford has an enrollment of over 7,000 undergraduate students and over 9,000 graduate students for a total of over 16,000. It has over 2,100 faculty members in its seven schools and colleges: the Graduate School of Business, School of Earth Sciences, Graduate School of Education, School of Engineering, School of Humanities and Sciences, School of Law, and School of Medicine.

World-class multi disciplinary research universities, like Stanford, by scope, structure, scale and ambition attract the best and the brightest faculty members and students. The students benefit from learning from the best faculty from multiple disciplines, all on the same co-located campus. This also enables invaluable structured and spontaneous interactions with students and faculty members from various fields. Discussions in corridors, labs, and coffee shops often leads to new ideas, interdisciplinary collaborations, advancing of the frontiers of knowledge, and start-ups. This broad-based formal and informal learning and innovation environment is critical in the 21st century.

In addition, faculty and students are able to conduct research at the intersection of subject boundaries. As a result, these types of universities are ideally positioned to solve complex problems facing society and industry such as energy, health, urban migration, and climate change. The university-led innovations, fostered in these environments, are also creating new products and industries, and fueling economic growth and wealth creation.

According to a 2012 study, since the 1930s Stanford entrepreneurs (faculty and alumni) have started 39,900 companies, which in turn have created 5.4 million jobs and generate US\$2.7 trillion in revenues annually.

In 2014, Stanford received US\$1.33 billion in research funding. This includes funding for the SLAC National Accelerator Laboratory, originally called the Stanford Linear Accelerator Center. In 2013–14, the university received approximately US\$108 million in gross royalty revenues from licensing 655 of its technologies.

Companies such as Google, Cisco, Yahoo, HP, Charles Schwab, eBay, Instagram, VMWare, and Tesla have Stanford roots. Its faculty member, Fred Terman, is considered to be the “Father of Silicon Valley” and “Academic architect of Silicon Valley.” It is a research and innovation powerhouse.

Thus, it is evident that the Stanford is making an impact on the students, industry, society and the humanity at a compelling scale.

Conclusion

There is a tsunami-wave of young men and women arriving at the doorsteps of their lives and careers. Thus, the time to transform India’s higher education system and make it world-class has never been more critical or urgent. It is also time to move beyond individual brilliance towards building institutional excellence. The lessons from Nalanda of ancient India and Stanford of modern era offer a compelling roadmap to create a better future for India’s youth, society, and its economy. Doing so will be a lasting legacy for the government, industry and academic leaders, and philanthropists and a win-win for all the stakeholders.

[The article includes excerpts from *Building Golden India: How to unleash India's vast potential and transform its higher education system. Now*. The publisher grants NHRD permission to publish it in their journal.]

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